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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
YAM, STEPHEN K				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/790,441

Applicant(s)

FLUM ET AL.

Examiner

STEPHEN YAM

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1, 2, 4-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 14, 2008 has been entered. Claims 1, 2, 4-15, and 17-20.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 5, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Simon et al. US 5,900,930.

Regarding Claim 1, Simon et al. teach (see Fig. 1) a controller comprising: a rotatable platter (21) journaled for rotation, said rotatable platter including a top surface (see Fig. 1) and a side circumferential skirt (22) substantially perpendicular to said top surface (see Fig. 1); an optical system comprising a lens (28), an image sensor (in camera (24)), a light source (26) and a signal processor (see Col. 3, lines 32-52) responsive to said rotatable platter; said optical system being positioned to optically acquire surface sequential images from said side circumferential

skirt (see Fig. 7) and calculate differences in said sequential surface images thereby determining the direction and magnitude of rotation of said rotatable platter (see Fig. 7); and said optical system including an output responsive to said rotatable platter (see Fig. 7).

Regarding Claim 2, Simon et al. teach said side circumferential skirt includes a textured pattern whereby said optical system acquires sequential surface images of said textured pattern (see Fig. 1).

Regarding Claim 4, Simon et al. teach (see Fig. 7) said optical system is responsive to rotational velocity (124) of said rotatable platter.

Regarding Claim 5, Simon et al. teach (see Fig. 7) said optical system is responsive to rotational position (122) of said rotatable platter.

Regarding Claim 18, Simon et al. teach said light source is a light emitting diode (LED) (see Col. 3, lines 53-62).

Regarding Claim 19, Simon et al. teach said optical system is an optical navigation system (based on angular position- see Fig. 7).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al.

Regarding Claim 20, Simon et al. teach the device in Claim 1, according to the appropriate paragraph above. Simon et al. also teach the device used for any situation where the sensing of the angular position of a rotating body is required or beneficial (see Col. 2, lines 17-24). Simon et al. do not teach the controller used for a disk jockey application. It is well known in the art that disk jockey devices utilize knobs and other rotational user input devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the controller used for a disk jockey application, in the device of Simon et al., to apply the device of Simon to any device utilizing an angular input component for greater versatility.

6. Claims 6-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al. in view of Hinckley et al. US 6,844,871.

Regarding Claim 17, Simon et al. teaches the device in Claim 1, according to the appropriate paragraph above. Simon et al. does not teach said rotatable platter has at least one degree of freedom of movement in addition to rotation, an extent of movement of said at least one degree of freedom of movement being determined by said optical system optically acquiring sequential images from said circumferential skirt. Hinckley et al. teach a similar device with determining various freedom of movements based on acquiring sequential images (see Col. 7, lines 49-59) of a textured pattern (see Fig. 28-32) including rotational movement (see Fig. 23 and Col. 11, lines 33-47) and at least one degree of freedom of movement (tilt) (see Fig. 13, 16) in addition to rotation, an extent of movement of said at least one degree of freedom of movement being determined by said optical system optically acquiring sequential images (see Col. 10, line 48 to Col. 11, line 12). It would have been obvious to one of ordinary skill in the art at the time

the invention was made to provide said rotatable platter having at least one degree of freedom of movement in addition to rotation, an extent of movement of said at least one degree of freedom of movement being determined by said optical system optically acquiring sequential images from said circumferential skirt, as taught by Hinckley et al., in the device of Simon et al., to provide improved sensing of the positional status of the rotatable platter for greater versatility of sensing.

Regarding Claim 6, Simon et al. in view of Hinckley et al. teach the device in Claim 17, according to the appropriate paragraph above. Simon et al. does not teach said at least one degree of freedom of movement comprises one and only one degree of freedom of movement. It is well known in the art to limit the functionality of a device to certain sub-sections, to save on costs of the device when the functionality is not required in a specific application. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide said at least one degree of freedom of movement comprises one and only one degree of freedom of movement, in the device of Simon et al. in view of Hinckley et al., to provide a lower cost device capable of more limited degrees of freedom of sensing for the lower-end sensor market.

Regarding Claim 7, Simon et al. in view of Hinckley et al. teach said one degree of freedom comprises tilting of said rotatable platter (see Hinckley et al., Fig. 13, 16 and Col. 10, line 48 to Col. 11, line 12).

Regarding Claim 8, Simon et al. in view of Hinckley et al. teach said optical system is responsive to tilting movement of said rotatable platter (see Hinckley et al., Fig. 13, 16 and Col. 10, line 48 to Col. 11, line 12).

Regarding Claim 11, Simon et al. in view of Hinckley et al. teach said at least one degree of freedom of movement comprises two degrees of freedom of movement (left-right and front-back tilts) (see Hinckley et al., Fig. 13, 16, and Col. 10, lines 48-50).

Regarding Claim 12, Simon et al. in view of Hinckley et al. teach said two degrees of freedom comprise tilting of said rotatable platter in directions orthogonal to each other (left-right and front-back tilts) (see Hinckley et al., Fig. 13, 16, and Col. 10, lines 48-50).

Regarding Claim 13, Simon et al. in view of Hinckley et al. teach said optical system is responsive to tilting movement of said rotatable platter (see Hinckley et al., Fig. 13, 16, and Col. 10, lines 48-50).

Regarding Claims 9 and 14, Simon et al. in view of Hinckley et al. teach the device in Claim 7, according to the appropriate paragraph above. Simon et al. in view of Hinckley et al. teach said optical system is responsive to tilting position of said rotatable platter (see Hinckley et al., Fig. 13, 16, and Col. 2, lines 13-23 and Col. 10, line 48 to Col. 11, line 12). Simon et al. does not teach the optical system responsive to tilting velocity of the rotational platter. It is well known in the art to configure an optical encoder to output a sensing value for both position and velocity, as velocity is merely a displacement over a given time period and is easily calculated from the sensed data using simple arithmetic (distance/time). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the optical system responsive to tilting velocity of the rotational platter, in the device of Simon et al., to provide common optical encoder functionality and abilities in the device for improved versatility in commercial devices.

Regarding Claims 10 and 15, Simon et al. in view of Hinckley et al. teach said optical system is responsive to tilting position of said rotatable platter (see Hinckley et al., Fig. 13, 16, and Col. 2, lines 13-23 and Col. 10, line 48 to Col. 11, line 12).

Response to Arguments

7. Applicant's arguments with respect to claims 1, 2, 4-15, and 17-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Germuth-Loffler et al. US 6,459,389, and Matsuo US 6,320,185 teach similar devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN YAM whose telephone number is (571)272-2449. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen Yam/
Primary Examiner, Art Unit 2878